Production	Gradation	Report
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Sample Date		8/29/22	1	ſ	Concrete Grade:	DM, 4500HP				
Dates Test R		8/30/2022	- through	9/5/2022		· · · ·	MDOT No.:			
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution	ĺ			
6AA	71-47	Presque Isle	1460	8.93	2.62	50.2				
26A	71-47	Presque Isle	300	1.83	2.62	10.3	1			
2NS	75-051	Mid Michigan	1150	6.93	2.66	39.5	1			SU
		Total Wt	2910	17.69	<u> </u>	100.0	< Verify this n	umber is 100%		MAT
Sieve	(	6AA	26/	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<b>Superio</b> 30701 V
2"		100.0	100		100.0	100.0	0.0	0.0	1	Suite 50
1.5"		100.0	100		100.0	100.0	0.0	0.0	1	Farming
1"		96.4	100		100.0	98.2	1.8	1.8	l	
3/4"		78.0	100		100.0	89.0	9.2	11.0	1	
1/2"		40.3	98.		100.0	69.9	19.0	30.1	l	
3/8"		23.5	87.	-	100.0	60.4	9.6	39.6		Retained must
#4		4.0	23.		98.9	43.5	16.8	56.5		cent sieves mu
#8		2.2	5.4		84.8	35.2	8.4	64.8		00 and #200 sie
#16		1.9	3.1		69.5	28.7	6.4	71.3		nust be at least
#30 #50		1.7	2.0		53.6	22.3	6.4	77.7	nom. max., #10	
#50 #100		1.6	2.		27.2	11.8	10.5	88.2		nust be at leas
#100 LBW		1.5 1.4	2.3		8.0 1.3	4.2 1.4	7.7 2.7	95.8 98.6	a 2" max. size (	nom. Max. 1.5
Production G		Batch Plant Grad		o regate Supplier Gra	-			ion Sample (IPS	 3)	
	ess Factor:	61	Work	ability Factor:	35	37.7		eness Factor:	62	
				461119				ability Factor:	35	
								Cumulative	%	Cumulativ
	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retaine
		52, 41					2"	100.0	0.0	0.0
			57.39				1.5"	100.0	0.0	0.0
ত <sup>40</sup> 1					75, 39					
<sup>40</sup>			Pro	oduction Gradation	8		1"	100.0	0.0	0.0
for (%)				oduction Gradation	8		1" 3/4"	100.0 95.0	5.0	5.0
actor (%)			■ Pro ■ 60, 3	oduction Gradation	8		1" 3/4" 1/2"	100.0 95.0 70.5	5.0 24.5	5.0 29.5
/ Factor (%)		52, 34		oduction Gradation	8		1" 3/4" 1/2" 3/8"	100.0 95.0 70.5 60.0	5.0 24.5 10.5	5.0 29.5 40.0
lity Factor (%)	45, 33		• 60, 3	oduction Giadation	18 1		1" 3/4" 1/2" 3/8" #4	100.0 95.0 70.5 60.0 44.4	5.0 24.5 10.5 15.6	5.0 29.5 40.0 55.6
ability Factor (%)	45, 33			oduction Gradation	18 1		1" 3/4" 1/2" 3/8" #4 #8	100.0 95.0 70.5 60.0 44.4 35.5	5.0 24.5 10.5 15.6 9.0	5.0 29.5 40.0 55.6 64.5
rkability Factor (%)	Operating Zone		• 60, 3	oduction Giadation	31		1" 3/4" 1/2" 3/8" #4 #8 #16	100.0 95.0 70.5 60.0 44.4 35.5 28.5	5.0 24.5 10.5 15.6 9.0 7.0	5.0 29.5 40.0 55.6 64.5 71.5
Vorkability Factor (%)	ļ		• 60, 3	oduction Giadation	18 1		1" 3/4" 1/2" 3/8" #4 #8 #16 #30	100.0 95.0 70.5 60.0 44.4 35.5 28.5 21.5	5.0 24.5 10.5 15.6 9.0 7.0 7.0	5.0 29.5 40.0 55.6 64.5 71.5 78.5
ability Factor (%)	Operating Zone		• 60, 3	oduction Giadation	31		1" 3/4" 1/2" 3/8" #4 #8 #16	100.0 95.0 70.5 60.0 44.4 35.5 28.5	5.0 24.5 10.5 15.6 9.0 7.0	5.0 29.5 40.0 55.6 64.5 71.5

75

80

60 **Coarseness Factor (%)** 

#100

LBW

3.1

1.3

7.1

1.8

96.9

98.7



rior Materials, LLC W. 10 Mile Rd. 500 ngton Hills, MI 48336

st be above the 3/8" sieve. ust equal 10% except max., ieves. st 4% for each sieve except max., ieves. st 8% for the 1" sieve when .5") aggregate is used.

≤ <sub>25</sub>↓ 40 45 ActionLimits Boundary = - - - - -

50

55

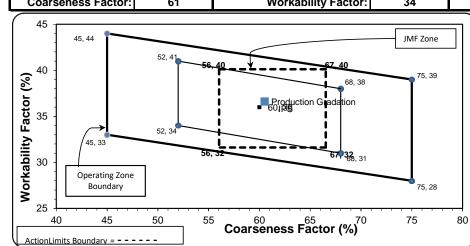
Approved By: Mart P. Ball

PLANT #	#:	P-102					Contractor:			_
Sample Date	:	8/29/22		C	Concrete Grade	: DM, 4500HP				-
Dates Test R	epresents:	8/30/2022	through	9/5/2022			MDOT No.:			
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contributior	]			
6AA	58-003	Stoneco	1400	8.34	2.69	47.5				
26A	58-003	Stoneco	400	2.38	2.69	13.6				
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0				SUF
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%	-	MAT
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior</u> 30701 W.
2"	1	00.0	100	0.0	100.0	100.0	0.0	0.0	1	Suite 500
1.5"	1	00.0	100	0.0	100.0	100.0	0.0	0.0	1	Farmingt
1"	1	99.6	10	0.0	100.0	99.8	0.2	0.2		
3/4"		86.2	10	0.0	100.0	93.5	6.4	6.5		
1/2"		37.5	99	).7	100.0	70.3	23.2	29.7		
3/8"		19.0	89	0.5	100.0	60.1	10.2	39.9	*Maximum %	Retained must be
#4		1.8	25	5.8	99.2	43.0	17.1	57.0	*Any two adja	acent sieves must
#8		1.0	6.	.9	83.9	34.1	8.9	65.9	nom. max., #1	00 and #200 sieve
#16		0.7	3.	.0	66.5	26.7	7.5	73.3	*% Retained	must be at least 4
#30		0.6	2.	2	48.2	19.4	7.3	80.6	nom. max., #1	00 and #200 sieve
#50		0.5	2.	.1	23.4	9.6	9.7	90.4	*% Retained	must be at least 8
#100		0.5	2.		6.4	3.0	6.6	97.0	a 2" max. size	(nom. Max. 1.5")
LBW		0.4	1.	.8	1.0	0.8	2.2	99.2		
Production G	radation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	dations	Adjusted WF	Intial Producti	on Sample (IPS	S)	
Coarsene	ess Factor:	61	Work	ability Factor:	34	36.6	Coars	eness Factor:	61	1
45							Work	ability Factor:	36	1
	45, 44				JMF Zone		Sieve	Cumulative	%	Cumulative
. 1								% Passing	Retained	% Retained
10		52, 41 <b></b>	40	67 40			2"	100.0	0.0	0.0



Materials, LLC 10 Mile Rd. n Hills, MI 48336

above the 3/8" sieve. qual 10% except max., for each sieve except max., for the 1" sieve when ggregate is used.



Coars	seness Factor:	61	
Worl	kability Factor:	36	
Sieve	Cumulative	%	Cumulative
Sleve	% Passing	Retained	% Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

Approved By: Mary P. Ball

PLANT :	#:	P-103					Contractor:				
Sample Date		8/29/22		C	Concrete Grade	: DM, 4500HP					
Dates Test R	Represents:	8/30/2022	through	9/5/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	58-003	Stoneco	1400	8.34	2.69	47.5					
26A	58-003	Stoneco	400	2.38	2.69	13.6					
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0				SUP	ERIOR
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%			RIALS
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			<b>Materials, LLC</b> 10 Mile Rd.
2"		100.0	100	).0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		100.0	100		100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"		99.6	100		100.0	99.8	0.2	0.2			
3/4"		86.2	100		100.0	93.5	6.4	6.5			
1/2"		37.5	99	.7	100.0	70.3	23.2	29.7			
3/8"		19.0	89	.5	100.0	60.1	10.2	39.9	*Maximum %	Retained must be	above the 3/8" sieve.
#4		1.8	25		99.2	43.0	17.1	57.0	*Any two adja	cent sieves must e	qual 10% except max.,
#8		1.0	6.		83.9	34.1	8.9	65.9	nom. max., #10	00 and #200 sieves	
#16		0.7	3.		66.5	26.7	7.5	73.3	*% Retained	must be at least 4%	for each sieve except
#30		0.6	2.		48.2	19.4	7.3	80.6	-	00 and #200 sieves	
#50		0.5	2.		23.4	9.6	9.7	90.4			for the 1" sieve when
#100 LBW		0.5	2.	-	6.4 1.0	3.0 0.8	6.6 2.2	97.0 99.2	a 2" max. size	(nom. Max. 1.5") ag	ggregate is used.
LDVV		0.4	1.		-						
Production G	Gradation	O Batch Plant Gra	dations 💽 Agg	regate Supplier Gra	adations	Adjusted WF	Intial Production	on Sample (IPS	5)	_	
Coarsene	ess Factor:	61	Work	ability Factor:	34	36.6	Coars	eness Factor:	61		
45							Work	ability Factor:	36		
_	45, 44				JMF Zone		Sieve	Cumulative	%	Cumulative	
1	45, 44				Jivii Zone		Sleve	% Passing	Retained	% Retained	
10		52, 41 <b></b>	40	67 40			2"	100.0	0.0	0.0	
হ <sup>40</sup> [				68, 38	75, 39		1.5"	100.0	0.0	0.0	
<u>ی</u>			i				1"	99.3	0.7	0.7	
<b>5</b>			Produ 601BS	iction Gradation			3/4"	89.2	10.1	10.8	
Factor (%)			1				1/2"	70.7	18.5	29.3	
<b>Ľ</b>		52, 34	+	i			3/8"	60.7	10.0	39.3	
E I	45, 33	56.					#4	44.4	16.3	55.6	
Workability				67, 32, 31			#8	35.9	8.5	64.1	
ž	Operating Zone	2					#16	27.3	8.6	72.7	
<b>♀</b>   L	Boundary				75, 28		#30 #50	19.1 7.4	8.2 11.7	80.9 92.6	
> <sub>25</sub>							#50 #100	1.9	5.6	92.6 98.1	
		50 55	<b>Coarseness</b>	65 70	75	80	LBW	0.7	5.6	98.1	
40	45		00 _ 00	_0070	15	00		07	1.7	<u>uu 3</u>	

Approved BY: Mary 1. Ball

PLANT #	#: _	P-14					Contractor:				
Sample Date	-	8/29/22		C	Concrete Grade	: DM, 4500HP					
Dates Test R	epresents:	8/30/2022	through	9/5/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution				Γ	
6AA	58-003	Stoneco	1460	8.70	2.69	49.3					
26A	58-003	Stoneco	400	2.38	2.69	13.5				L	
2NS	19-55	Schlegel	1100	6.60	2.67	37.2				Bui	<b>Iders'</b>
		Total Wt	2960	17.68		100.0	< Verify this n	umber is 100%	•		DI-MIX
Sieve	6	AA	26/	4	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<b>Builders</b> 30701 W.	<b>Redi-Mix</b> 10 Mile Rd.
2"	1	00.0	100	.0	100.0	100.0	0.0	0.0	1	Suite 500	
1.5"		00.0	100		100.0	100.0	0.0	0.0	]	Farmingto	n Hills, MI 48336
1"		9.6	100		100.0	99.8	0.2	0.2			
3/4"		36.2	100		100.0	93.2	6.6	6.8			
1/2"		37.5	99.		100.0	69.1	24.1	30.9			
3/8"		9.0	89.	-	100.0	58.6	10.5	41.4			above the 3/8" sieve.
#4		1.8	25.	-	100.0	41.5	17.1	58.5			equal 10% except max.,
#8		1.0	6.9		90.0	34.9	6.7	65.1	· ·	00 and #200 sieves	
#16		0.7	3.0		68.5	26.2	8.7	73.8			6 for each sieve except
#30 #50		0.6 0.5	2.2		44.8 15.8	17.2 6.4	9.0 10.8	82.8 93.6	,	00 and #200 sieves	
#30		0.5	2.		3.1	1.7	4.7	93.0			6 for the 1" sieve when
LBW		0.3	1.6		0.4	0.6	1.1	99.4		(nom. Max. 1.5") a	ggregate is used.
Production G		Batch Plant Gra		egate Supplier Gra			-	on Sample (IPS	<b>1</b> 6)		
Coarsene	ess Factor:	64	Work	ability Factor:	35	37.4		eness Factor:	63		
		• •						ability Factor:	36		
45	45, 44				JMF Zone		Sieve	Cumulative % Passing	% Retained	Cumulative % Retained	
1		52, 41	57.40	68, 40			2"	100.0	0.0	0.0	
ං <sup>40</sup> ]					75, 39		1.5"	100.0	0.0	0.0	
<u>گ</u>				Production Grada	ation I		1"	99.3	0.7	0.7	
Į Į			<b>6</b> 0, 36		auon		3/4"	89.0	10.3	11.0	
<b>5</b> 35		Ţ					1/2"	70.3	18.7	29.7	
Щ I	$\nearrow$	52, 34	- <u>i</u>				3/8"	59.9	10.4	40.1	
Workability Factor (%)	45, 33		22	68, 32 68, 31			#4	41.9	18.0	58.1	
		-	.,	<b>~~6</b> 8, <b>3</b> 1			#8	35.9	6.0	64.1	
ž 📋	Operating Zone						#16	27.8	8.2	72.2	
₽ L	Boundary				75, 28		#30 #50	18.9 6.3	8.8 12.6	81.1 93.7	
> <sub>25</sub>							#50 #100	6.3 1.7	4.6	93.7 98.3	
40	45	50 55	60	65 70	75	80	#100	1.7	4.0	90.0	

75

80

LBW

1.0

0.7

99.0

PREPARED BY: SM, LLC Technical Service

45

ActionLimits Boundary = - - - - -

40

50

55

 $\operatorname{Coarseness}^{60}\operatorname{Factor}^{65}(\%)^{70}$ 

PLANT #	<b>#:</b>	P-12					Contractor:				
Sample Date	:	8/29/22			Concrete Grade	: DM, 4500HP					
Dates Test R	epresents:	8/30/2022	through	9/5/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1505	9.21	2.62	51.8					
26A	71-47	Presque Isle	250	1.53	2.62	8.6					
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6				SUD	FRIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	1		ERIOR TRIALS
Sieve	(	5AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, LLC
2"	1	00.0	100		100.0	100.0	0.0	0.0		30701 W. 1 Suite 500	U MIIE Rd.
2 1.5"		00.0	100		100.0	100.0	0.0	0.0			Hills, MI 48336
1.5		00.0	100		100.0	100.0	0.0	0.0		i ai i i ing to i	11113, 1411 -100000
3/4"		79.0	100		100.0	89.1	10.9	10.9			
1/2"		37.1	96		100.0	67.1	22.0	32.9			
3/8"		17.5	89	.1	100.0	56.3	10.8	43.7	*Maximum %	Retained must be a	above the 3/8" sieve.
#4		2.5	22	.4	96.3	41.3	15.0	58.7	*Any two adja	cent sieves must e	qual 10% except max.,
#8		1.7	5.	5	77.9	32.2	9.2	67.8	nom. max., #10	00 and #200 sieves	
#16		1.5	2.	1	61.5	25.3	6.9	74.7	*% Retained r	must be at least 4%	for each sieve except r
#30		1.5	1.		46.9	19.5	5.8	80.5	nom. max., #10	00 and #200 sieves	
#50		1.4	1.	4	27.1	11.6	7.9	88.4	*% Retained r	must be at least 8%	for the 1" sieve when
#100		1.3	1.		7.9	3.9	7.7	96.1	a 2" max. size	(nom. Max. 1.5") ag	ggregate is used.
LBW		1.0	1.	2	1.2	1.1	2.8	96.1 98.9			ggregate is used.
LBW Production G	radation	1.0 () Batch Plant Gra	1. dations	2 regate Supplier Gr	1.2 adations	1.1 Adjusted WF	2.8 Intial Production	96.1 98.9 on Sample (IPS	·)		ggregate is used.
LBW Production G		1.0	1. dations	2	1.2 adations	1.1	2.8 Intial Productio <b>Coars</b>	96.1 98.9 on Sample (IPS eness Factor:	63		ggregate is used.
LBW Production G	radation	1.0 () Batch Plant Gra	1. dations	2 regate Supplier Gr	1.2 adations	1.1 Adjusted WF	2.8 Intial Productio <b>Coars</b>	96.1 98.9 on Sample (IPS eness Factor: ability Factor:	) 63 36	(nom. Max. 1.5") ag	ggregate is used.
LBW Production G Coarsene	radation	1.0 () Batch Plant Gra	1. dations	2 regate Supplier Gr	1.2 adations	1.1 Adjusted WF	2.8 Intial Productio Coars Work	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative	) 63 36 %	(nom. Max. 1.5") ag Cumulative	ggregate is used.
LBW Production G Coarsene	radation ess Factor:	1.0 () Batch Plant Gra	1. dations	2 regate Supplier Gr. ability Factor	1.2 radations : 32	1.1 Adjusted WF	2.8 Intial Productio Coars Work Sieve	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing	) 63 36 % Retained	(nom. Max. 1.5") ag Cumulative % Retained	ggregate is used.
LBW Production G Coarsene	radation ess Factor:	1.0 Batch Plant Gra 64	1. dations	2 regate Supplier Gr	1.2 adations : 32 JMF Zone	1.1 Adjusted WF	2.8 Intial Productio Coars Work Sieve 2"	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0	) 63 36 % Retained 0.0	(nom. Max. 1.5") ag Cumulative <u>% Retained</u> 0.0	ggregate is used.
LBW Production G Coarsene	radation ess Factor:	1.0 Batch Plant Gra 64	1. dations	2 regate Supplier Gr. ability Factor	1.2 radations : 32 JMF Zone	1.1 Adjusted WF	2.8 Intial Productio Coars Work Sieve 2" 1.5"	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	) 63 36 % Retained 0.0 0.0	(nom. Max. 1.5") ag <b>Cumulative</b> % Retained 0.0 0.0	ggregate is used.
LBW Production G Coarsene 45 40 40	radation ess Factor:	1.0 Batch Plant Gra 64	1. dations  Agg Work	2 regate Supplier Gr. ability Factor 68, 40	1.2 radations : 32 JMF Zone	1.1 Adjusted WF	2.8 Intial Productio Coars Work Sieve 2" 1.5" 1"	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3	) 63 36 % Retained 0.0 0.0 0.7	(nom. Max. 1.5") ag <b>Cumulative</b> % Retained 0.0 0.0 0.7	ggregate is used.
LBW Production G Coarsene 45 40 40	radation ess Factor:	1.0 Batch Plant Gra 64	1. dations	2 regate Supplier Gr. ability Factor 68, 40 68, 38 PS	1.2 adations 32 JMF Zone	1.1 Adjusted WF	2.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4"	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0	) 63 36 % Retained 0.0 0.0 0.0 0.7 10.3	(nom. Max. 1.5") ag <b>Cumulative</b> <b>% Retained</b> 0.0 0.0 0.7 11.0	ggregate is used.
LBW Production G Coarsene 45 40 40	radation ess Factor:	1.0 Batch Plant Gra 64	1. dations  Agg Work	2 regate Supplier Gr. ability Factor 68, 40	1.2 adations 32 JMF Zone	1.1 Adjusted WF	2.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3	<ul> <li>63</li> <li>36</li> <li>%</li> <li>Retained</li> <li>0.0</li> <li>0.0</li> <li>0.7</li> <li>10.3</li> <li>18.7</li> </ul>	Cumulative % Retained 0.0 0.7 11.0 29.7	ggregate is used.
LBW Production G Coarsene 45 40 40	radation ess Factor:	1.0 Batch Plant Gravent Gravent Gravent Gravent Gravent Graven G	1. dations  Agg Work	2 regate Supplier Gr. ability Factor 68, 40 68, 38 PS PS Production Gr	1.2       adations       :     32       JMF Zone       3       75, 39       radation	1.1 Adjusted WF	2.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9	63 36 % Retained 0.0 0.0 0.7 10.3 18.7 10.4	(nom. Max. 1.5") ag <b>Cumulative</b> <b>% Retained</b> 0.0 0.0 0.7 11.0 29.7 40.1	ggregate is used.
LBW Production G Coarsene 45 40 40	eradation ess Factor:	1.0 Batch Plant Gravent Gravent Gravent Gravent Gravent Graven G	1. dations  Agg Work	2 regate Supplier Gr. ability Factor 68, 40 68, 38 PS	1.2       adations       :     32       JMF Zone       3       75, 39       radation	1.1 Adjusted WF	2.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9	63 36 % Retained 0.0 0.0 0.7 10.3 18.7 10.4 18.0	(nom. Max. 1.5") ag <b>Cumulative</b> <b>% Retained</b> 0.0 0.0 0.7 11.0 29.7 40.1 58.1	ggregate is used.
LBW Production G Coarsene 45 40 40	45, 33	1.0 Batch Plant Gra 64 52, 41 52, 34	1. dations  Agg Work	2 regate Supplier Gr. ability Factor 68, 40 68, 38 PS PS Production Gr	1.2       adations       :     32       JMF Zone       3       75, 39       radation	1.1 Adjusted WF	2.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9 35.9	63         36         %         Retained         0.0         0.7         10.3         18.7         10.4         18.0         6.0	(nom. Max. 1.5") ag <b>Cumulative</b> % Retained 0.0 0.0 0.7 11.0 29.7 40.1 58.1 64.1	ggregate is used.
LBW Production G Coarsene 45 45 40	45, 33 Operating Zone	1.0 Batch Plant Gra 64 52, 41 52, 34	1. dations  Agg Work	2 regate Supplier Gr. ability Factor 68, 40 68, 38 PS PS Production Gr	1.2       adations       :     32       JMF Zone       3       75, 39       radation	1.1 Adjusted WF	2.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9	63 36 % Retained 0.0 0.0 0.7 10.3 18.7 10.4 18.0	(nom. Max. 1.5") ag <b>Cumulative</b> <b>% Retained</b> 0.0 0.0 0.7 11.0 29.7 40.1 58.1	ggregate is used.
Norkability Factor (%)	45, 33	1.0 Batch Plant Gra 64 52, 41 52, 34	1. dations  Agg Work	2 regate Supplier Gr. ability Factor 68, 40 68, 38 PS PS Production Gr	1.2     adations     :   32   JMF Zone 3 3 radation 4	1.1 Adjusted WF	2.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9 35.9 27.8	63 36 % Retained 0.0 0.0 0.7 10.3 18.7 10.4 18.0 6.0 8.2	Cumulative % Retained 0.0 0.7 11.0 29.7 40.1 58.1 64.1 72.2	ggregate is used.
LBW Production G Coarsene 45 40 40	45, 33 Operating Zone	1.0 Batch Plant Gra 64 52, 41 52, 34	1. dations • Agg Work	2 regate Supplier Gr. ability Factor 68, 40 68, 38 PS Production Gr 688, 33	1.2       adations       :     32       JMF Zone       3       radation       75, 39       radation       75, 28	1.1 Adjusted WF	2.8 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	96.1 98.9 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9 35.9 27.8 18.9	63         36         %         Retained         0.0         0.7         10.3         18.7         10.4         18.0         6.0         8.2         8.8	(nom. Max. 1.5") ag Cumulative % Retained 0.0 0.0 0.7 11.0 29.7 40.1 58.1 64.1 72.2 81.1	ggregate is used.



PREPARED BY: SM, LLC Technical Service

ActionLimits Boundary = - - - - -

Approved By:

PLANT #	<b>#:</b>	P-32					Contractor:			_	
Sample Date	:	8/29/22		C	Concrete Grade	DM, 4500HP				-	
Dates Test R	epresents:	8/30/2022	through	9/5/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1555	9.51	2.62	53.5					
26A	71-47	Presque Isle	200	1.22	2.62	6.9					
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6				SUP	ERIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%			RIALS
Sieve	(	5AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior</u> 30701 W. 1	<b>Materials, LLC</b> 10 Mile Rd.
2"	1	00.0	100	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"	1	00.0	100	0.0	100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"		98.9	100		100.0	99.4	0.6	0.6			
3/4"		35.7	100		100.0	92.3	7.1	7.7			
1/2"		50.9	96		100.0	73.5	18.9	26.5			
3/8"		27.0	89		100.0	60.2	13.3	39.8			above the 3/8" sieve.
#4		4.7	22		95.6	41.9	18.3	58.1			qual 10% except max.,
#8 #16		2.7 2.3	5.		83.0 67.6	34.7 28.1	7.2 6.5	65.3 71.9	-	00 and #200 sieves	
#16		2.3	1.		48.3	20.4	7.7	71.9		must be at least 4% 00 and #200 sieves	for each sieve except m
#50		2.1	1.		24.1	10.8	9.6	89.2			for the 1" sieve when
#100		2.0	1.		7.4	4.1	6.7	95.9		(nom. Max. 1.5") ag	
					1.5					(	ggrogato lo dobal
LBW		1.8	1.	2	1.5	1.6	2.4	98.4			
	radation	1.8 Batch Plant Gra	-	2 regate Supplier Gra	-			98.4 on Sample (IPS	6)	_	
Production G	radation	-	dations 💿 Agg		-		Intial Production		5) 62	1	
Production G Coarsene		Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	dations	Adjusted WF	Intial Productio	on Sample (IPS	ŕ		
Production G Coarsene	ess Factor:	Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	dations 35	Adjusted WF	Intial Productio Coars Work	on Sample (IPS eness Factor:	62	Cumulative	
Production G Coarsene		Batch Plant Gra 61	dations 💿 Agg	regate Supplier Gra	dations	Adjusted WF	Intial Productio	on Sample (IPS eness Factor: ability Factor:	62 36	Cumulative % Retained	
Coarsene	ess Factor:	Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	dations 35	Adjusted WF	Intial Productio Coars Work Sieve 2"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0	62 36 % Retained 0.0	% Retained 0.0	
Production G Coarsene	ess Factor:	Batch Plant Gra	dations  Agg Work	regate Supplier Gra <b>cability Factor</b> :	dations 35	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	62 36 % Retained 0.0 0.0	% Retained 0.0 0.0	
Production G Coarsene	ess Factor:	Batch Plant Gra	dations  Agg Work	regate Supplier Gran <b>cability Factor:</b> 67, 40 68, 38	dations 35 JMF Zone	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0	62 36 % Retained 0.0 0.0 0.0	% Retained 0.0 0.0 0.0	
45 40	ess Factor:	Batch Plant Gra	dations  Agg Work	regate Supplier Gra- <b>cability Factor:</b> 67, 40 68, 38 duction Gradation	dations 35 JMF Zone	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0	62 36 % Retained 0.0 0.0 0.0 5.0	% Retained 0.0 0.0 0.0 5.0	
Production G Coarsene	ess Factor:	Batch Plant Gra	dations  Agg Work	regate Supplier Gra- <b>cability Factor:</b> 67, 40 68, 38 duction Gradation	dations 35 JMF Zone	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3	62 36 % Retained 0.0 0.0 0.0 5.0 22.8	% Retained 0.0 0.0 0.0 5.0 27.7	
Lactor G Coarsene 45 40 40 40 35 35	IS, 44	Batch Plant Gra	dations  Agg Work	regate Supplier Gra- <b>cability Factor:</b> 67, 40 68, 38 duction Gradation	dations 35 JMF Zone	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8	% Retained 0.0 0.0 0.0 5.0 27.7 39.6	
Lactor G Coarsene 45 40 40 40 35 35	ess Factor:	Batch Plant Gra	dations  Agg Work	67, 40	dations 35 JMF Zone	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8	% Retained           0.0           0.0           0.0           27.7           39.6           57.4	
45 40 40 40 40 40 40 40 40 40 40 40 40 40	45, 33	Batch Plant Gra	dations  Agg Work	regate Supplier Gra- <b>cability Factor:</b> 67, 40 68, 38 duction Gradation	dations 35 JMF Zone	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6 36.0	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8 6.6	% Retained           0.0           0.0           0.0           27.7           39.6           57.4           64.0	
Eactor G Coarsene 45 40 40 40 35 35	IS, 44	Batch Plant Gra	dations  Agg Work	67, 40	dations 35 JMF Zone 75, 39	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8	% Retained           0.0           0.0           0.0           27.7           39.6           57.4	
Production G Coarsene 45 40 40 40 40 40 40 40 40 40 40 40 40 40	45, 33 Operating Zone	Batch Plant Gra	dations  Agg Work	67, 40	dations 35 JMF Zone	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5	% Retained           0.0           0.0           0.0           27.7           39.6           57.4           64.0           70.5	
Lactor G Coarsene 45 40 40 40 40 40 40 40 40 40 40 40 40 40	45, 33 Operating Zone	Batch Plant Gra	dations  Agg Work	67, 40	dations 35 JMF Zone 75, 39	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5 20.3	62 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5 9.2	% Retained           0.0           0.0           0.0           5.0           27.7           39.6           57.4           64.0           70.5           79.7	

Approved By:

	<b>#:</b>	P-35	-				Contractor:			-	
Sample Date	):	8/29/22	-		Concrete Grade	DM, 4500HP	-				
Dates Test R	<presents:< pre=""></presents:<>	8/30/2022	through	9/5/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific	%					
6AA	58-003	Stoneco	1400	8.34	<b>Gravity</b> 2.69	Contribution 47.5					
26A	58-003	Stoneco	400	2.38	2.69	13.6					
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0					
_		Total Wt		17.68		100.0	< Verify this n	umber is 100%	_	MATE	ERIALS
Sieve	(	6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			<b>Materials<u>,</u> LLC</b> 10 Mile Rd.
2"	1	100.0	10	0.0	100.0	100.0	0.0	0.0	1	Suite 500	
1.5"		100.0	10		100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"		99.6		0.0	100.0	99.8	0.2	0.2	1		
3/4"		86.2	-	0.0	100.0	93.5	6.4	6.5	1		
1/2"		37.5		9.7	100.0	70.3	23.2	29.7	1		
3/8"		19.0		9.5	100.0	60.1	10.2	39.9			above the 3/8" sieve.
#4		1.8		5.8	99.2	43.0	17.1	57.0			qual 10% except max.
#8		1.0		.9	83.9	34.1	8.9	65.9		00 and #200 sieves	
#16		0.7		.0	66.5	26.7	7.5	73.3			6 for each sieve except
#30		0.6		.2	48.2	19.4	7.3	80.6	· · · ·	00 and #200 sieves	
#50 #100		0.5 0.5	2		23.4 6.4	9.6 3.0	9.7 6.6	90.4 97.0			6 for the 1" sieve when
LBW		0.5		.0 .8	1.0	0.8	2.2	97.0 99.2	a 2° max. size	(nom. Max. 1.5") ag	ggregate is used.
2011		Batch Plant Gra	-	-	_				1		
Draduation (				redate Subblier G					2)		
		<u> </u>		regate Supplier G	1			on Sample (IPS	ŕ	1	
Coarsen	ess Factor:	61		kability Factor	1	36.6	Coars	eness Factor:	61	]	
Coarsene		<u> </u>			1		Coars	eness Factor: ability Factor: Cumulative	61 36 %	Cumulative	
	ess Factor:	<u> </u>			r: 34		Coars Work Sieve	eness Factor: ability Factor: Cumulative % Passing	61 36 % Retained	% Retained	
Coarsene 45 40	ess Factor:	61			r: 34 JMF Zone		Coars Work Sieve 2"	eness Factor: ability Factor: Cumulative % Passing 100.0	61 36 % Retained 0.0	% Retained 0.0	
Coarsene 45 40	ess Factor:	61			r: 34 JMF Zone		Coars Work Sieve 2" 1.5"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0	61 36 % Retained 0.0 0.0	% Retained 0.0 0.0	
Coarsene 45 40	ess Factor:	61	Work	eability Factor	r: 34 JMF Zone		Coars Work Sieve 2" 1.5" 1"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3	61 36 % Retained 0.0 0.0 0.7	% Retained 0.0 0.0 0.7	
Coarsene 45 40	ess Factor:	61	Work	kability Factor	r: 34 JMF Zone		Coars Work Sieve 2" 1.5" 1" 3/4"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1	61 36 % Retained 0.0 0.0 0.7 10.2	% Retained 0.0 0.0 0.7 10.9	
Coarsene 45 40	ess Factor:	61 52, 41 56;	Work	eability Factor	r: 34 JMF Zone		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3	61 36 % Retained 0.0 0.0 0.7 10.2 18.6	% Retained 0.0 0.0 0.7 10.9 29.5	
Coarsene 45 40	ess Factor:	61	Work	eability Factor	r: 34 JMF Zone		Coars Work Sieve 2" 1.5" 1" 3/4"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5 60.5	61 36 % Retained 0.0 0.0 0.7 10.2	% Retained 0.0 0.0 0.7 10.9	
Coarsene 45 40	45, 44	61 52, 41 56;	Work	eability Factor	r: 34 JMF Zone 8 75, 39		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5	61 36 % Retained 0.0 0.0 0.7 10.2 18.6 10.0	% Retained           0.0           0.7           10.9           29.5           39.5	
Coarsene 45 40	45, 44 45, 44	61 52, 41 52, 34 52, 34 56,	Work	etion Gradation	r: 34 JMF Zone 8 75, 39		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5 60.5 44.1	61 36 % Retained 0.0 0.0 0.7 10.2 18.6 10.0 16.4	% Retained           0.0           0.7           10.9           29.5           39.5           55.9	
Coarsene 45 40	45, 44	61 52, 41 52, 34 52, 34 56,	Work	etion Gradation	r: 34 JMF Zone 8 75, 39		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5 60.5 44.1 35.6 27.7 20.6	61 36 % Retained 0.0 0.0 0.7 10.2 18.6 10.0 16.4 8.5 7.9 7.1	% Retained           0.0           0.7           10.9           29.5           39.5           55.9           64.4           72.3           79.4	
Workability Factor (%)	45, 44 45, 33 Operating Zone	61 52, 41 52, 34 52, 34 56,	Work	etion Gradation	r: 34 JMF Zone 8 75, 39		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5 60.5 44.1 35.6 27.7	61 36 % Retained 0.0 0.0 0.7 10.2 18.6 10.0 16.4 8.5 7.9	% Retained           0.0           0.7           10.9           29.5           39.5           55.9           64.4           72.3	
Coarsene 45 40	45, 44 45, 33 Operating Zone	61 52, 41 52, 34 52, 34 56,	Work	etion Gradation	r: 34 JMF Zone 8 75, 39 31 75, 28		Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.1 70.5 60.5 44.1 35.6 27.7 20.6	61 36 % Retained 0.0 0.0 0.7 10.2 18.6 10.0 16.4 8.5 7.9 7.1	% Retained           0.0           0.7           10.9           29.5           39.5           55.9           64.4           72.3           79.4	

PREPARED BY: SM, LLC Technical Service

ActionLimits Boundary = - - - - -

Approved By:

PLANT #	#:	P-36					Contractor:				
Sample Date	:	8/29/22			Concrete Grade:	DM, 4500HP					
Dates Test R	epresents:	8/30/2022	through	9/5/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1505	9.21	2.62	51.8					
26A	71-47	Presque Isle	300	1.83	2.62	10.3					
2NS	63-92	Grange Hall Total Wt	1100 <b>2905</b>	6.65 <b>17.69</b>	2.65	37.9 100.0	· Vorify this p	umborio 100%			ERIOR
			2905	17.09		100.0	< Verify this n			MATE	ERIALS
Sieve	(	6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			<b>Materials, LLC</b> 10 Mile Rd.
2"	1	00.0	100	).0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	100		100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"	1	00.0	100	).0	100.0	100.0	0.0	0.0			
3/4"		79.0	100	-	100.0	89.1	10.9	10.9			
1/2"		37.1	96		100.0	67.1	22.1	32.9			
3/8"		17.5	89		100.0	56.1	10.9	43.9	*Maximum %	Retained must be	above the 3/8" sieve.
#4		2.5	22		97.0	40.3	15.8	59.7			qual 10% except max.,
#8		1.7	5.	-	81.5	32.3	8.0	67.7	-	00 and #200 sieves	
#16		1.5	2.		65.7	25.9	6.4	74.1			6 for each sieve except n
#30 #50		1.5	1.		47.5	18.9	6.9	81.1 91.9	,	00 and #200 sieves	
#50 #100		1.4 1.3	<u> </u>		3.7	8.1 2.2	10.9 5.9	91.9 97.8			6 for the 1" sieve when
LBW		1.0	1.		0.3	0.8	1.5	97.8 99.2	a z max. size	(nom. Max. 1.5") ag	ggregate is used.
Production G		Batch Plant Gra		egate Supplier G			-	on Sample (IPS	<b>6</b> )		
	ess Factor:	65	Work	ability Facto	r: 32	34.8		eness Factor:	63		
							Work	ability Factor:	35		
<sup>45</sup> ]								Cumulative	%	Cumulative	
- 4	15, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
1		52, 41	$ \rightarrow $				2"	100.0	0.0	0.0	
<b>a</b> <sup>40</sup>			58, 39		75, 39		1.5"	100.0	0.0	0.0	
ð 1				68, 3	8		1"	99.1	0.9	0.9	
j j			∎ ∎ 60, 36	İ			3/4"	90.3	8.8	9.7	
<b>te</b> 35 -		1	<b>-</b> 00, 30	IPS Production	Gradation		1/2"	69.2	21.1	30.8	
Щ́ į		52, 34		Ĭ			3/8"	59.1	10.1	40.9	
li j	45, 33						#4	41.8	17.3	58.2	
		_	58, 31	68,	31		#8	35.1	6.6	64.9 71.5	
ž	Operating Zone						#16 #30	28.5 21.2	6.6 7.3	71.5 78.8	
Workability Factor (%)	Boundary				75, 28		#30 #50	8.7	12.5	91.3	
> <sub>25</sub>							#30	1.8	7.0	98.2	
40	45	50 55	60 Coarseness	_657	0 75	80	LBW	0.7	1.0	99.3	
			Coarseness	Factor (%)			==			- 5.8	

Approved By:

PLANT :		P-39					Contractor:				
Sample Date	e:	8/29/22			Concrete Grade:	DM, 4500HP					
Dates Test R	Represents:	8/30/2022	through	9/5/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1605	9.82	2.62	55.2					
26A	71-47	Presque Isle	200	1.22	2.62	6.9					
2NS	44-051	Krake Willis Ro	1100	6.65	2.65	37.9				SUP	ERIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%			RIALS
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			<b>Materials, LLC</b> 10 Mile Rd.
2"		00.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	10		100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"		96.4	10		100.0	98.0	2.0	2.0			
3/4"		78.0	10		100.0	87.8	10.2	12.2			
1/2"		40.3		.9	100.0	66.9	20.9	33.1			
3/8"		23.5	-	.9	100.0	56.9	10.0	43.1			above the 3/8" sieve.
#4		4.0	23		96.2	40.3	16.6	59.7			qual 10% except max.
#8		2.2	5.		79.4 63.7	31.7 25.4	8.6 6.3	68.3 74.6		00 and #200 sieves	
#16 #30		1.9 1.7	2		49.3	25.4 19.8	5.6	74.6			for each sieve except
#30 #50		1.7	2	-	27.2	19.8	5.6 8.4	88.6		00 and #200 sieves	5 for the 1" sieve when
#100		1.5	2	-	8.6	4.2	7.1	95.8		(nom. Max. 1.5") ag	
LBW		1.4	2		1.5	1.5	2.8	98.5			ggregate is used.
Production G	Gradation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gr	adations			on Sample (IPS	5)		
Coarsene	ess Factor:	63	Work	ability Factor	: 32	34.2	Coars	eness Factor:	63		
					-			ability Factor:	36		
45	45, 44				JMF Zone		Sieve	Cumulative	%		
-		52, 41		_			2"	% Passing 100.0	Retained 0.0	% Retained 0.0	
<b>4</b> 0			58,40	00, 40	75, 39		 1.5"	100.0	0.0	0.0	
8				68, 38	10, 39		1"	100.0	0.0	0.0	
5				Ţ,			3/4"	89.7	10.3	10.3	
Factor (%)			■ 60, 36	1			1/2"	70.3	19.4	29.7	
ů j	$\rightarrow$	52, 34		Production Grada	ation		3/8"	59.1	11.2	40.9	
Ξź	45, 33						#4	42.8	16.3	57.2	
<b>ig</b> 30			58, 22	6 <b>8</b> 88	32		#8	35.5	7.3	64.5	
ar ∏   ∑	Operating Zone						#16	29.0	6.5	71.0	
Norkability	Boundary				75, 28		#30	21.2	7.7	78.8	
S   _							#50	9.8	11.5	90.2	
25							#100	3.7	6.1	96.3	
25 <del> </del> 40	45	50 55	60	Factor (%)	) 75	80	LBW	1.2	2.5	98.8	

Approved By: Mart P. Ball

PLANT #	#:	<b>P-O2</b>					Contractor:			_	
Sample Date	:	8/29/22			Concrete Grade	DM, 4500HP				-	
Dates Test R	epresents:	8/30/2022	through	9/5/2022			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1505	9.21	2.62	51.8					
26A	71-47	Presque Isle	250	1.53	2.62	8.6					
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6				SUP	ERIOR
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	1	MATE	RIALS
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 2	<b>Materials, LLC</b> 10 Mile Rd.
2"	1	00.0	10	0.0	100.0	100.0	0.0	0.0	1	Suite 500	
1.5"		00.0	10		100.0	100.0	0.0	0.0	1	Farmingto	n Hills, MI 48336
1"	1	00.0	10	0.0	100.0	100.0	0.0	0.0	1		
3/4"		79.0	10	0.0	100.0	89.1	10.9	10.9	1		
1/2"		37.1		6.6	100.0	67.1	22.0	32.9			
3/8"		17.5	89		100.0	56.3	10.8	43.7	*Maximum %	Retained must be a	above the 3/8" sieve.
#4		2.5		2.4	96.3	41.3	15.0	58.7	· · ·		qual 10% except max.,
#8		1.7	5	-	77.9	32.2	9.2	67.8		00 and #200 sieves	
#16		1.5	2		61.5	25.3	6.9	74.7			for each sieve except
#30		1.5		.6	46.9	19.5	5.8	80.5	,	00 and #200 sieves	
#50 #100		<u>1.4</u> 1.3		.43	27.1 7.9	11.6 3.9	7.9 7.7	88.4 96.1			for the 1" sieve when
				-	1.2	3.9	2.8		a 2° max. size	(nom. Max. 1.5") ag	ggregate is used.
I BW		10	1	.,				48 4			
LBW Production G	radation	1.0 Batch Plant Gra		.2 regate SupplierGr				98.9 on Sample (IPS	<b>)</b> 3)		
Production G		-	dations 💿 Agg	regate SupplierGr	adations	Adjusted WF	Intial Production	on Sample (IPS	<i>.</i>	1	
Production G Coarsene	radation ess Factor:	O Batch Plant Gra	dations 💿 Agg		adations		Intial Productio Coars	on Sample (IPS eness Factor:	63	]	
Production G Coarsene	ess Factor:	O Batch Plant Gra	dations 💿 Agg	regate SupplierGr	adations r: 32	Adjusted WF	Intial Productio Coars Work	on Sample (IPS eness Factor: ability Factor:	63 35	Cumulative	l
Production G Coarsene		O Batch Plant Gra	dations 💿 Agg	regate SupplierGr	adations	Adjusted WF	Intial Productio Coars	on Sample (IPS eness Factor: ability Factor: Cumulative	63 35 %	Cumulative % Retained	
Production G Coarsene	ess Factor:	O Batch Plant Gra	dations 💿 Agg	regate SupplierGr	adations r: 32	Adjusted WF	Intial Productio Coars Work	on Sample (IPS eness Factor: ability Factor:	63 35	Cumulative <u>% Retained</u> 0.0	
Coarsene	ess Factor:	Batch Plant Gra 64	dations 💿 Agg	regate SupplierGr kability Facto	adations	Adjusted WF	Intial Productio Coars Work Sieve	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing	63 35 % Retained	% Retained	
Coarsene	ess Factor:	Batch Plant Gra 64	dations  Agg Work	regate SupplierGr	adations	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0	63 35 % Retained 0.0 0.0 0.0	% Retained 0.0 0.0 0.0	
Coarsene	ess Factor:	Batch Plant Gra 64	dations  Agg Work 58, 39 60, 36	regate SupplierGr <b>kability Factor</b> <b>68, 39</b> <b>68, 3</b> <b>68, 3</b> <b>1</b>	adations 	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.1	63 35 % Retained 0.0 0.0 0.0 4.9	% Retained           0.0           0.0           0.0           4.9	
Coarsene	ess Factor:	Batch Plant Gra  64  52, 41  52, 41	dations  Agg Work 58, 39 60, 36	regate SupplierGr <b>kability Factor</b> <b>68, 39</b> <b>68, 3</b> <b>68, 3</b> <b>1</b>	adations 	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.1 74.6	63 35 % Retained 0.0 0.0 0.0 4.9 20.5	% Retained           0.0           0.0           0.0           0.0           25.4	
Lactor (%)	45, 44	Batch Plant Gra 64	dations  Agg Work 58, 39 60, 36	regate SupplierGr cability Factor	adations 	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.1 74.6 59.3	63 35 % Retained 0.0 0.0 0.0 4.9 20.5 15.3	% Retained           0.0           0.0           0.0           25.4           40.7	
Lactor (%)	ess Factor:	Batch Plant Gra  64  52, 41  52, 41	dations (a) Agg Work 58, 39 • 60, 36	68, 39 68, 39 68, 30 68, 30 78, 30 78	JMF Zone 75, 39 aradation	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.1 74.6 59.3 42.1	63 35 % Retained 0.0 0.0 0.0 4.9 20.5 15.3 17.2	% Retained           0.0           0.0           0.0           25.4           40.7           57.9	
Lactor (%)	45, 44	Batch Plant Gra	dations  Agg Work 58, 39 60, 36	regate SupplierGr <b>kability Factor</b> <b>68, 39</b> <b>68, 3</b> <b>68, 3</b> <b>1</b>	JMF Zone 75, 39 aradation	Adjusted WF	Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.1 74.6 59.3 42.1 35.1	63 35 % Retained 0.0 0.0 0.0 4.9 20.5 15.3 17.2 7.1	% Retained           0.0           0.0           0.0           25.4           40.7           57.9           64.9	
Eactor (%)	45, 44 45, 33 Operating Zone	Batch Plant Gra	dations (a) Agg Work 58, 39 • 60, 36	68, 39 68, 39 68, 30 68, 30 78, 30 78	adations 7: 32 JMF Zone 8 75, 39 8 9 10 10 10 10 10 10 10 10 10 10	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.1 74.6 59.3 42.1 35.1 29.2	63 35 % Retained 0.0 0.0 0.0 4.9 20.5 15.3 17.2 7.1 5.9	% Retained           0.0           0.0           0.0           4.9           25.4           40.7           57.9           64.9           70.8	
Production G Coarsene 45 40 40 40 40 40 40 40 40 40 40 40 40 40	45, 44	Batch Plant Gra	dations (a) Agg Work 58, 39 • 60, 36	68, 39 68, 39 68, 30 68, 30 78, 30 78	JMF Zone 75, 39 aradation	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.1 74.6 59.3 42.1 35.1 29.2 21.9	63 35 % Retained 0.0 0.0 0.0 4.9 20.5 15.3 17.2 7.1 5.9 7.3	% Retained           0.0           0.0           0.0           4.9           25.4           40.7           57.9           64.9           70.8           78.1	
Hactor (%) 45 45 40 40 40 40 40 40 40 40	45, 44 45, 33 Operating Zone	Batch Plant Gra	dations Agg Work 58, 39 60, 36 58, 31	68, 39 68, 39 68, 30 68, 30 78, 30 78	JMF Zone	Adjusted WF	Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.1 74.6 59.3 42.1 35.1 29.2	63 35 % Retained 0.0 0.0 0.0 4.9 20.5 15.3 17.2 7.1 5.9	% Retained           0.0           0.0           0.0           4.9           25.4           40.7           57.9           64.9           70.8	

Approved By: Marthe Ball